Lake Watershed Break Out Sessions

Recommendations from each of the 12 earlier break out sessions were provided to attendees of the 6 specific Lake Watershed Break Out Sessions. The attendees discussed the recommendation to identify which were a priority for their specific watershed. The priority recommendations from these discussions are presented below.

Lake Erie

The Lake Erie watershed group identified Monitoring Programs, Monitoring Technologies, and Modeling as the top priority recommendations. Specifically under Monitoring Programs, the group felt that establishing consistent monitoring methodologies was important, but funding is needed at the local level to carry out the monitoring. The group also supported the development of rapid, on-site testing techniques. The attendees also suggested a network or task force be formed to further explore and discuss Lake Erie-related issues. A list of names, organizations, phone numbers, and e-mail addresses was created and shared among the Lake Erie watershed group.

A summary of the recommendations voting is presented below. The topics are presented in order of priority and specific elements selected by the group are listed under each topic.

1. MONITORING

- Establish consistent monitoring methodologies and protocols by developing a better correlation between polluted waters and pathogens
- Measure parameters consistently
- Test for *E. coli* and enterococci
- Develop appropriate sampling plans that include at least three samples at each sampling event
- Develop beach monitoring networks, databases, inventories to aid in grouping beaches
- Promote mandatory and standardized monitoring

2. MONITORING TECHNOLOGY

- Need to be able to do rapid on-site monitoring (e.g., less than 2 hours)
- Need to do physical identification of sewage in the field
- Develop rapid testing techniques to meet the needs of policy/decision makers and to avoid closing the beaches a day late

3. MODELING

- Expand the knowledge of beach conditions, including effects of local and lakewide physical processes on beaches, to enhance the use of predictive modeling

4. COMMUNICATION

- Increase the level of quality of the information to be communicated and the communication tools, including universal signage for communicating beach advisory information
- Expand the use of Internet technology and wireless communication to educate and promote awareness
- Develop a notification process to disseminate water quality, marine conditions, and beach information (for example, utilize "fax notification"; public media such as a.m. radio; Internet)

5. EDUCATION AND OUTREACH

- Focus on public schools and opportunities to use other programs and venues (for example, Lake Michigan Boat Tour)
- Increase understanding of sources and types of *E. coli*.
- Partnership with the media to increase their involvement in public awareness and education
- Increase public education and awareness with signage explaining health impacts of various behaviors
- Compile best practices employed by different agencies, identifying common features

6. REGULATIONS AND CONTROLS

- Establish regulations that provide more authority at the local level to control sources of *E. coli*, such as manure spreading
- Develop consistent closing criteria using bacterial indicators
- Require regular urban monitoring; improve stormwater management at beaches, for example, as part of the Phase II Stormwater Program
- Require regular sanitary surveys for all beaches
- Develop a systematic approach or protocol for source assessments

7. FUNDING

- Identify federal funding resources and establish strong partnerships
- Increase funding for non-regulatory programs and sampling programs

Lake Huron

The Lake Huron watershed group discussed the lack of jurisdictional information associated with Lake Huron because the vast majority of the beaches are in Canada. Therefore, their priority recommendations revolved around developing a better understanding of the beach system and who is responsible for what activities. They discussed the pending development of an inventory of Lake Huron beaches. The group also recognized the need to establish some minimum monitoring requirements and develop a monitoring network.

1. REGULATIONS AND CONTROL

- Identify the agency or entity that has jurisdiction over and responsibility for each beach
- Identify the agency or entity that has the legal responsibility to monitor each beach
- Specify the minimum monitoring requirements for a beach to satisfy policy makers and the general public

2. MONITORING

- Develop beach monitoring networks, databases, inventories to aid in grouping beaches

Lake Michigan

The Lake Michigan watershed breakout group numbered over 100 participants. A portion of the discussion focused on combined sewer overflows and the need to address them on the local level. The group also discussed the need for better freshwater studies and increased understanding of each lake's physical processes at a local and regional level in order to develop standardized monitoring. The group agreed that more sharing of information and communication among all appropriate groups is needed to increase public education and outreach and aid those groups conducting the monitoring, modeling, and surveillance.

A summary of the recommendations voting is presented below. The topics are presented in order of priority and specific elements selected by the group are listed under each topic.

1. MONITORING TECHNOLOGY

- Need to be able to do rapid on-site monitoring (e.g., less than 2 hours)
- Develop rapid testing techniques to meet the needs of policy/decision makers and to avoid closing the beaches a day late
- Differentiate human and animal sources of contamination

2. EDUCATION AND PUBLIC OUTREACH

- Expand public outreach and education at all levels
- Develop best practices guidance materials
- Focus on public schools and opportunities to use other programs and venues (for example, Lake Michigan Boat Tour)
- Increase understanding of sources and types of *E. coli*
- Partnership with the media to increase their involvement in public awareness and education
- Improve information sharing and collaboration between NGOs, with the media, and local, state, and federal agencies

3. MONITORING

- Promote mandatory and standardized monitoring

- Establish consistent monitoring methodologies and protocols by developing a better correlation between polluted waters and pathogens
- Develop beach monitoring networks, databases, inventories to aid in grouping beaches

4. REGULATIONS AND CONTROLS

- Establish regulations that provide more authority at the local level to control sources of *E. coli*, such as manure spreading
- Specify the minimum monitoring requirements for a beach to satisfy policy makers and the general public
- Identify the agency or entity that has jurisdiction over and responsibility for each beach
- Identify the agency or entity that has the legal responsibility to monitor each beach
- Require regulatory sanitary surveys for all beaches
- Establish methods for implementing bather loads and use assessment
- Develop a systematic approach or protocol for source assessments

5. MODELING

- Expand the knowledge of beach conditions, including effects of local and lakewide physical processes on beaches, to enhance the use of predictive modeling
- Update freshwater epidemiologic studies to help characterize beaches and find better indicators
- Establish partnerships with meteorologists to enhance the use of predictive modeling in forecasting potential or actual beach closure events
- Build a complete database prior to modeling

6. COMMUNICATION

- Increase the level of quality of the information to be communicated and the communication tools, including universal signage for communicating beach advisory information
- Develop a notification process to disseminate water quality, marine conditions, and beach information (for example, utilize “fax notification”; public media such as a.m. radio; Internet)
- Establish website that details monitoring procedures and presents prior data

7. FUNDING

- Identify federal funding resources and establish strong partnerships
- Increase funding for non-regulatory programs and sampling programs
- Seek federal funding to sponsor epidemiological studies to provide scientific support for regulatory requirements

8. SURVEILLANCE

- Increase surveillance (incident investigation) of outbreaks to better understand the magnitude of the problems
- Improve reporting accuracy and sharing of information

Lake Ontario

The Lake Ontario watershed group considered funding to be a top priority but proposed four topics with specific recommendations to be carried forward for further discussion.

A summary of the recommendations voting is presented below. The Lake Ontario watershed group did not prioritize the topics. Specific elements selected by the group are listed under each topic.

1. SURVEILLANCE

    - Increase surveillance (incident investigation) of outbreaks to better understand the magnitude of the problems

2. MONITORING

    - Establish consistent monitoring methodologies and protocols by developing a better correlation between polluted waters and pathogens and promoting standardized and mandatory monitory

3. MODELING

    - Expand the knowledge of beach conditions, including effects of local and lakewide physical processes on beaches, to enhance the use of predictive modeling

4. PUBLIC OUTREACH AND EDUCATION

    - Expand public outreach and education at all levels

Lake St. Clair

The Lake St. Clair watershed group discussed lake levels and modeling for the lake. The group believes that the public has a fairly high level of awareness regarding beach and lake issues and the thrust of priorities seem to be in the area of modeling and monitoring. The group believes that the top priority for Lake St. Clair is a completion of a Lakewide Management Plan.

Listed below are the priorities and specific elements decided on by the group.

1. MONITORING TECHNOLOGY

    - Need to be able to do rapid on-site monitoring (e.g., less than 2 hours)
    - Need to do physical identification of sewage in the field
    - Need to use monitoring technology for tracking sources of contamination
    - Need to be able to differentiate human and animal sources of contamination

2. EDUCATION AND PUBLIC OUTREACH

- Increase public outreach and education at all levels
- Increase public education and awareness with signage explaining health impacts of various behavior

3. FUNDING

- Increase funding for non-regulatory programs and sampling programs

4. MONITORING

- Require increased monitoring of dredge disposal areas
- Promote mandatory and standardized monitoring

5. MODELING

- Expand the knowledge of beach conditions, including effects of local and lakewide physical processes on beaches, to enhance the use of predictive modeling

Lake Superior

The Lake Superior watershed group spend considerable time discussing various programs to monitor and manage beaches, both on Lake Superior and on the inland lakes in Minnesota and Wisconsin. The group then proposed five priority topics and specific recommendations to be carried forward for further discussion.

A summary of the recommendations voting is presented below. The topics are presented in order of priority and specific elements selected by the group are listed under each topic.

1. FUNDING

- Identify federal funding resources and establish strong partnerships

2. REGULATIONS AND CONTROLS

- Identify the agency or entity that has jurisdiction over and responsibility for each beach
- Identify the agency or entity that has the legal responsibility to monitor each beach

3. MONITORING

- Establish consistent monitoring methodologies and protocols by developing a better correlation between polluted waters and pathogens
- Create standardized templates for characterizing the problems

4. PUBLIC EDUCATION AND OUTREACH

- Increase public education and awareness with signage explaining health impacts of various behavior

- Develop and distribute educational tools
- Develop commercial campaign to increase public awareness of the communicable nature of gastro-intestinal disorders
- Compile best practices employed by different agencies, identifying common features

5. MONITORING TECHNOLOGY

- Need to be able to do rapid on-site monitoring (e.g., less than 2 hours)